



LS102 Wireless Switch Installation Guide



Supported Models and Requirements

Europe: EFLS102/N1W | UK: EFLS102/N1W

This device requires a neutral AC connection.
This device requires a 4-position terminal block in its wall box.

Specifications and Supported Fixtures

This switch operates independently or as a device you can control with your Escient® system. It installs in a standard wall box using typical wiring standards and communicates to the Escient system using a wireless connection. The specifications and supported fixtures are described below.

Power:	220-240 VAC 50/60 Hz 1.49 W-LEDs Off 1.77 W-LEDs On
Wiring:	Requires a neutral AC connection
Supported Load Types and Ratings:	220-240 VAC 1000VA Magnetic low voltage 220-240 VAC 1000VA Electronic low voltage
Operating Temperature:	All load ratings are based on an ambient temperature of 25 degrees Celsius.
Volume:	5.0 Cubic inches
Communications:	IEEE 802.15.4, 2.4 GHz, 15-channel, spread spectrum radio

- WARNING!** Improper use or installation can cause SERIOUS INJURY, DEATH or LOSS/DAMAGE OF PROPERTY.
- WARNING!** Install in accordance with all national and local electrical codes.
- WARNING!** If you are not sure which wires are Hot, Neutral, Load or Ground, have a trained electrician do the installation.
- CAUTION!** Do not install to control a receptacle.
- CAUTION!** If you are not sure which wires are Hot, Neutral, Load or Ground, have a trained electrician do the installation.
- IMPORTANT!** Using this product in a manner other than outlined in this document voids your warranty. Further, Escient is NOT liable for any damage incurred with the misuse of this product. See "Limited 2 Year Warranty."
- IMPORTANT!** Do NOT use a power screw driver to install this device.
- IMPORTANT!** Changes or modifications not expressly approved by Escient could void the user's authority to operate the equipment.

Installation Instructions

- 1** Ensure that the location and intended use meet the following criteria:
 - The range and performance of the wireless control system is highly dependent on the following: (1) distance between devices; (2) layout of the home; (3) walls separating devices; and (4) electrical equipment located near devices.
 - DO NOT exceed maximum load rating of switch (which is 1000 Volt for a single unit).
- WARNING!** Disconnect power before installing or servicing the device.
- 2** Switch off and isolate the mains power at the main consumer unit or fuse box before starting any installation or maintenance work.
- 3** Prepare the wall box and wires:
 - Ensure a 4-position terminal block is installed in the box.
 - Strip each wire's insulation back 7.3 mm (0.287 in.) from the wire end (as shown).

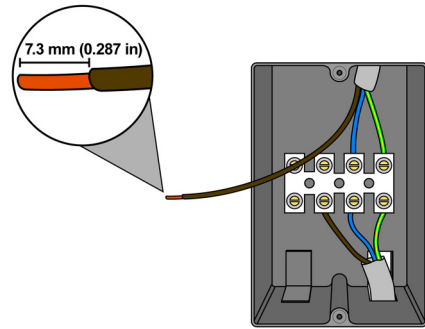


Figure 1. Strip Wire Insulation

- WARNING!** This is a Class 1 product and must be Earthed.
- 4** Identify and connect switch wires to the wall box wires. Wall box wires can differ depending upon how the box was wired by the electrician and where the power source comes from—either the light fixture or the wall box. Refer to "Sample Wiring Configurations".
- 5** Fit wires back into the wall box. Bend the wires in a zigzag pattern so that they easily fold into the wall box.
- 6** Connect the switch terminal block to the wall box wires as indicated in "Sample Wiring Configurations."
 - Note:** Wall box wires can differ depending upon how the box was wired by your electrician.
- 7** Secure the switch to the wall box using the screws provided.
- 8** Attach the Decora-style screw-on wall plate (included).
- WARNING!** Do not turn power back on until the wall plate is completely back in place.
- 9** When installation is complete, turn on the mains power.
- 10** Ensure that all LEDs on the front are lit.



Sample Wiring Configurations

Single-Location Scenario—Power Source at Wall Box

Note: This device will not function without a neutral AC connection.

To wire the switch for a Escient single-location scenario in which the power is first routed to the wallbox, use a 4-position terminal connector to connect the wires indicated in the following table (illustrated in Figure 2):

Switch Wires	Wires in the Wall Box	
	From Power Source	To Light Fixture
Blue (neutral)	Blue (neutral)	Blue (neutral)
Red (load)	None	Brown (load)
Brown (live)	Brown (live)	None
Green with Yellow (protective earth, E, or \perp)	Green with Yellow (earth, E, or \perp)	Green with Yellow (earth, E, or \perp)

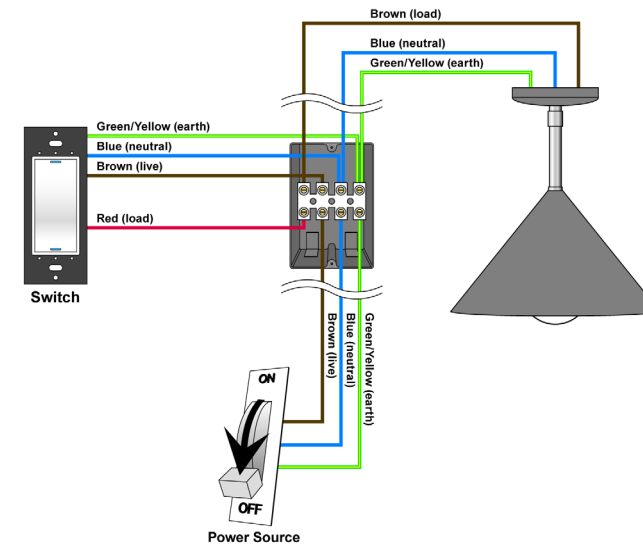


Figure 2. Wiring: Power Source at Wall Box

Two-Location Scenario—Power Source at Wall Box

Note: This device will not function without a neutral AC connection.

To wire the switch and a multi-button keypad in a two-location scenario (Escient's 3-way-switch solution) where the power is first routed to the wall box, do the following:

1. Wire the switch into Wall Box #1 by using a 4-position terminal connector to connect the following wires (illustrated in Figure 3):

Switch Wires	Wires in Wall Box 1		
	From Power Source	To Light Fixture	To Wall Box 2
Blue (neutral)	Blue (neutral)	Blue (neutral)	Blue (neutral)
Red (load)	None	Brown (load)	None
Brown (live)	Brown (live)	None	Brown (traveler)
Green with Yellow (earth, E, or \perp)	Green with Yellow (earth, E, or \perp)	Green with Yellow (earth, E, or \perp)	Green with Yellow (earth, E, or \perp)

2. Wire the multi-button keypad into Wall Box #2 by using a 3-position (or greater) terminal connector to connect the following wires (illustrated in Figure 3):

Multi-Button Keypad Wires	Wires in Wall Box 2 (from Wall Box 1)
Blue (neutral)	Blue (neutral)
Green with Yellow (earth, E, or \perp)	Green with Yellow (earth, E, or \perp)
Brown (traveler)	Brown (traveler)

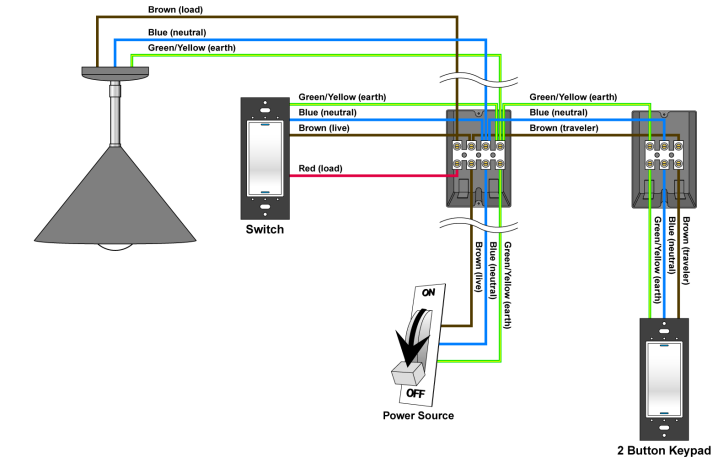


Figure 3. Wiring: Two-Location Scenario

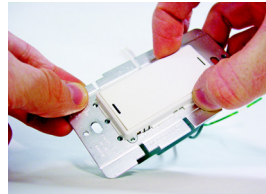
Optional Antenna Extension

In some installation scenarios, it may be desirable to enhance the switch's wireless (RF) transmission capabilities. This may be needed to overcome issues such as local interference from other devices, range considerations due to the distance between devices or the use of metallic faceplates. The Escient Wireless Switch has been designed with a wire whip antenna coiled underneath the plastic button that can be extended to accommodate such scenarios. Instructions for extending the antenna are provided below.

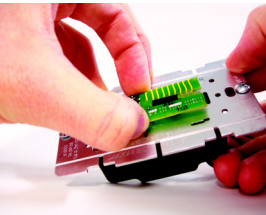
WARNING! To avoid risk of electrical shock that may cause personal injury or damage to the switch, this procedure should be performed prior to connecting the switch at the wall box.

CAUTION! Risk of Equipment Damage. This procedure enables advanced functionality and should only be performed by a competent trained installer.

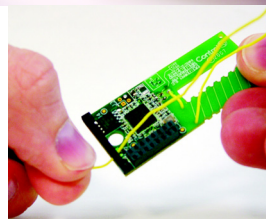
- 1 Remove the plastic button frame by squeezing the side tabs near the top and bottom of the button and pulling outward. A small flat-head screw driver can also be used to assist in releasing the tabs.



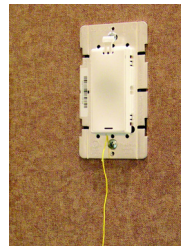
- 2 Once the button has been removed, detach the radio board from its connector by gently pulling away from the switch frame.



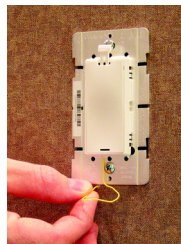
- 3 Slip the end of the antenna out of the radio board hole and uncoil it, being careful not to exert undue tension on the wire. Once uncoiled, thread the antenna wire under the plastic spacer at the bottom of the radio board.



- 4 Re-attach the radio card to the switch frame by carefully aligning the connector and pressing gently. Then re-attach the button and button frame by aligning the button frame securement tabs with the appropriate slots on the switch frame and pushing gently. Ensure that the antenna is routed through the small notch on the bottom left-hand side of the button frame provided for this purpose. Once the button has been re-attached, proceed with the standard installation procedure for wiring the switch to the light load and securing it into the wall box, as described in Step 1 through Step 7 of "Installation Instructions."



- 5 The antenna has been designed to extend well beyond the faceplate. For optimal performance, it should be oriented in a vertical plane below the switch. To enable this without leaving the antenna visible to the end user, a very small hole should be made in the wall just below the switch frame and the antenna inserted through the hole back into the wall. Once the antenna has been routed into the wall, proceed with standard installation (Step 8 through Step 10 of "Installation Instructions.")



CAUTION! Risk of Equipment Damage. The antenna must not be inserted into the junction box containing high voltage wires.

IMPORTANT! Do not shorten or cut the antenna in any way as this may seriously impair transmission capabilities.

Operation and Configuration

On initial power up, the unit will flash the Red/Green/Blue (RGB) LEDs, which can be programmed with different colors for different states or color preferences. To set up this switch for use with a Escient system, refer to your system setup documentation.

To operate this switch as a stand-alone device, refer to the following tables.

Operate Switch	Expected behavior of RGB LEDs:	
	Top	Bottom
To operate switch:		
Turn ON: Tap top.	Lit, full brightness	Not lit
Turn OFF: Tap bottom.	Not lit	Lit, full brightness
Care and Cleaning		
Do NOT paint switch or its wall plate.		
Do NOT use any chemical cleaners to clean the switch.		
Clean surface with a soft damp cloth as needed.		

Troubleshooting

If light does not turn on:

- Ensure at least one LED is lit.
- Ensure light bulb is not burned out and is screwed in tightly.
- Ensure circuit breaker is not turned OFF or tripped.
- Check for proper wiring (see the "Sample Wiring Configurations" section).
- For help on the installation or operation of this product, email or call the DMI Technical Support Center. Please provide your exact model number. Contact info@dm-i.eu or see the web site www.dm-i.eu

Limited 2 Year Warranty

Limited 2-year Warranty. Refer to www.escienteuropa.com/warranty

Regulatory Compliance

This product complies with standards established by the following regulatory bodies:

European Compliance

CE Declaration of Conformity



Product: **240 Volt Wireless Switch**

The undersigned hereby declares, on behalf of Escient, that the above-referenced product, to which this declaration relates, is in conformity with the provisions of:

- Council Directive 89/336/EEC (May 3, 1989) on Electromagnetic Compatibility
- Council Directive 1999/5/EC (Mar 9, 1999) on Radio & Telecommunication Terminal Equipment (R&TTE)
- Council Directive 2006/95/EC (Dec. 12, 2006) on Low Voltage Equipment Safety
- Council Directive 93/68/EEC (Jul. 22, 1993) Amending Directives 89/336/EEC and 73/23/EEC

and has been tested to the requirements of, and shown to be in compliance with, the following requisite standards:

EMC

- ETSI EN301489-1 and EN301489-17 Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services: Part 1: Common Technical requirements

Radio

- ETSI EN300328 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wide band transmission systems; Data transmission equipment operating in the 2.4GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R+TTE Directive.

Safety

- EN60669-1 Switches for household and similar fixed electrical installations - Part 1: General requirements
- EN60669-2-1 Switches for household and similar fixed electrical installations - Part 2-1: Particular requirements - Electronic switches

Australian/New Zealand Compliance

- AS/NZS 4268:2003 Radio equipment and systems
- AS/NZS 4771:2000 Data transmission equipment



Recycling



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